## REMARKS

The Office Action notes that claims 1-5, 17, 21, 23, 24, and 27 are pending in the application. By this amendment, claim 3 has been canceled, claims 1, 2, 4, 5, 17, 23, 24, and 27 have been amended, and claims 35 and 36 have been added. Therefore, claims 1-2, 4-5, 17, 21, 23, 24, 27, 35, and 36 are currently pending in the application. The amendments to the claims and the new claims are fully supported by the specification and do not add any new matter to the application.

In the Office Action, the Examiner: (1) rejected claims 1-5, 21, and 27 under 35 USC §102(b); and (2) rejected claims 17, 23, and 24 under 35 USC §103(a). Applicant responds to the Examiner's rejections below.

### *Claim Rejections - 35 USC §102*

The Examiner rejected claims 1-5, 21, and 27 under 35 USC §102(b) as being anticipated by Hosick (US Patent No. 6,032,904). Applicant respectfully submits that claims 1-2, 4-5, 21, and 27 (claim 3 has been canceled) are not anticipated by Hosick.

As for independent claim 1, Hosick does not discuss or suggest "a processor…being programmed with software that determines the attitude of the spacecraft…based solely on the input received from one of the plurality of sensors" (emphasis added) as recited in independent claim 1.

In Hosick, the entire sensor suite (32), which contains earth sensors and a set of gyroscopes, is used to determine spacecraft attitude and orientation (col. 6, ll. 56-63). *In addition to* the sensor suite, the spacecraft may also be equipped with several sun sensors and/or a star tracker. (col. 6, ll. 63-65) Nowhere does Hosick discuss or suggest that the attitude and

orientation of the spacecraft is or can be determined based on the input received from only one of the sensors in the sensor suite.

Therefore, Applicant respectfully submits that independent claim 1 is not anticipated by Hosick. Claims 2, 4-5, and 21 depend from independent claim 1 and for the reasons set forth above are also not anticipated by Hosick.

As for independent claim 27, Hosick does not discuss or suggest "a processor…being programmed with software that determines the attitude of the spacecraft…based solely on the input received from one of the star trackers" (emphasis added) as recited in claim 27.

In Hosick, the sensor suite (32) that is used to determine spacecraft attitude and orientation may contain an earth sensor and gyroscopes 34 (col. 6, ll. 56-63). *In addition to* the sensor suite, the spacecraft may also be equipped with several sun sensors and/or a star tracker (col. 6, ll. 63-65). Nowhere does Hosick discuss or suggest that the sensor suite, which determines the spacecraft attitude, contains a star tracker. The only mention of a star tracker in Hosick is that the spacecraft could also be equipped with a star tracker in addition to the sensor suite 32. In addition, there is no discussion or suggestion that the star tracker would or could be used to determine the attitude of the spacecraft. The only discussion of spacecraft attitude determination states that the attitude and orientation of the spacecraft is determined by the sensor suite (32), which does not contain a star tracker.

Therefore, Applicant respectfully submits that independent claim 27 is not anticipated by Hosick.

As for new independent claim 35, Hosick does not discuss or suggest "an attitude sensor set used for both transfer orbit operation and on-station operation…consisting of at least one star tracker" (emphasis added) as recited in independent claim 35.

In Hosick, the sensor suite (32) that is used to determine spacecraft attitude and orientation may contain an earth sensor and gyroscopes 34. (col. 6, ll. 56-63) *In addition to* the sensor suite, the spacecraft may also be equipped with several sun sensors and/or a star tracker. (col. 6, ll. 63-65) Nowhere does Hosick discuss or suggest that the sensor suite contains a star tracker or that the spacecraft sensors consist of only a star tracker. The only mention of a star tracker in Hosick is that a star tracker could be used in addition to the sensor suite 32.

Therefore, Applicant respectfully submits that independent claim 35 is not anticipated by Hosick.

As for new independent claim 36, Hosick does not discuss or suggest "an attitude sensor set used for both transfer orbit operation and on-station operation…consisting of at least one star tracker and at least one gyro device" (emphasis added) as recited in independent claim 36.

As discussed above, the sensor suite (32) in Hosick that is used to determine spacecraft attitude and orientation may contain an earth sensor and gyroscopes 34. (col. 6, ll. 56-63) *In addition to* the sensor suite, the spacecraft may also be equipped with several sun sensors and/or a star tracker. (col. 6, ll. 63-65) Nowhere does Hosick discuss or suggest that the sensor suite contains a star tracker and gyroscope or that the spacecraft sensors consist of only a star tracker and gyroscope.

Therefore, Applicant respectfully submits that independent claim 36 is not anticipated by Hosick.

***Claim Rejections - 35 USC §103***

The Examiner also rejected claim 17 under 35 USC §103(a) as being unpatentable over Hosick in view of the Boeing 702 fleet. Applicant respectfully submits that claim 17 is patentable over Hosick in view of the Boeing 702 fleet.

Claim 17 depends from independent claim 1. As discussed above for independent claim 1, Hosick does not discuss or suggest "a processor…being programmed with software that determines the attitude of the spacecraft…based solely on the input received from one of the plurality of sensors" (emphasis added) as recited in independent claim 1. In addition, the Boeing 702 fleet does not contain "a processor…being programmed with software that determines the attitude of the spacecraft…based solely on the input received from one of the plurality of sensors." Therefore, even if such a combination as Hosick and the Boeing 702 fleet were made, which Applicant does not concede is proper, the purported combination still would not reflect all of the elements recited in claim 17.

The Examiner also rejected claims 23 and 24 under 35 USC §103(a) as being unpatentable over Hosick in view of Baghdasarian (US Patent No. 6,010,096). Applicant respectfully submits that claims 23 and 24 are patentable over Hosick in view of Baghdasarian.

Claims 23 and 24 depend from independent claim 1. As discussed above for independent claim 1, Hosick does not discuss or suggest "a processor…being programmed with software that determines the attitude of the spacecraft…based solely on the input received from one of the plurality of sensors" (emphasis added) as recited in independent claim 1. In addition, Baghdasarian does not contain "a processor…being programmed with software that determines the attitude of the spacecraft…based solely on the input received from one of the plurality of sensors." Therefore, even if such a combination as Hosick and Baghdasarian were made, which Applicant does not concede is proper, the purported combination still would not reflect all of the elements recited in claims 23 and 24.

***Conclusion***

In view of the aforesaid, Applicant respectfully submits that claims 1-2, 4-5, 17, 21, 23, 24, 27, 35, and 36 are in condition for allowance and a Notice of Allowance for these claims is respectfully requested.

Respectfully submitted,

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